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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/488,677	01/21/2000	Nobuaki Abe	P18580	4779

7055 7590 07/01/2004

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EXAMINER

WU, JINGGE

ART UNIT	PAPER NUMBER
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2623

18

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/488,677

Applicant(s)

ABE, NOBUAKI

Examiner

Jingge Wu

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10, 13 and 16 is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Amendment

1. Applicants' response to the last Office Action, filed April 13, 2004 has been entered and made of record.

The Applicant's arguments rendered moot by the new ground rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 11-12 and 14-15 are rejected under 35 U.S.C. 102(a) as being anticipated by US 5845015 to Martucci.

As to claims 11-12, Martucci discloses a pixel number increasing method or apparatus comprising:

an DCT processor applies orthogonal DCT to image data comprised of a plurality pixels to obtain orthogonal transformation coefficients (fig. 4 Step402, col. 6 lines 50-53); and

an expanded image generating processor (fig. 1 106) that applies inverse DCT to the coefficients to expanded image data comprises of a greater number of pixels (fig. 4 404-410, col. 6 lines 54-67, note that after applying the IDCT in S408, an expanded image is produced).

As to claims 14-15, all elements have been addressed with regard to claims 11-12 above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martucci, in view of US 6424974 to Takahashi et al. (a reference of record) or US 5159468 to Yoshida et al. (a reference of record).

As to claims 1 and 9, Martucci disclose an image compression and expansion apparatus, comprising:

an DCT processor (fig. 1 106) reads input image data and generates DCT coefficients and stored the data in the recording memory (fig. 1, 107) (figs. 1 and 4 Step402, col. 6 lines 50-53); and

an decoding image generating processor (fig. 1, 106) that applies inverse DCT to the coefficients to obtain expanded image data (fig. 4 404-410, col. 6 lines 54-67).

Martucci does not expressly mention that reducing the image comprised of a smaller number of pixel than the original image.

Takahashi, in an analogous environment, discloses means to reduce input image pixels numbers by resolution conversion and then applying DCT (Fig. 2c and 2d, col. 8).

Also, Yoshida, in an analogous environment, discloses an image reduction circuit to reduce input image pixels before encoding (Fig. 8, col. 6 line 49-col. 7).

It would have been obvious to one having ordinary skill in the art at the time the invention was to use schemes of Takahashi or Yoshida in the apparatus of Martucci in order to quickly transmitting the coded data (Takahashi, col. 3; Yoshida, col. 1). Doing so would reduce DCT coefficients need to be transmitted so that the efficiency of the image processing apparatus is improved.

As to claim 2, the elements are addressed with regard to claim 1.

As to claim, 3, Yoshida further discloses the a averaging filtering operation to obtain the reduced number of pixels (col. 3-5)

As to claims 4-5, 6, and 8, Matucci further discloses matrix $(2N_1+1) \times (2N_2+1)$, which includes $(2N_1+1) \times (2N_2+1)$ pixels, and N_1 and N_2 are positive number (col. 6 lines 41-67).

As to claim 7, Matucci further discloses the enlarged output image could be as the same size as input image and thus same number of pixels (col 5 lines 13-33 and coll. 6 lines 41-67, note that enlarged image can be controlled because upsampling can be adjusted according to equation 10).

Allowable Subject Matter

6. Claims 10, 13, and 16 are allowed

Contact Information

7. Any inquiry concerning this communication or earlier communications should be directed to Jingge Wu whose telephone number is (703) 308-9588. He can normally be

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reached Monday through Thursday from 8:00 am to 5:30 pm. The examiner can be also reached on second alternate Fridays.

Any inquiry of a general nature or relating to the status of this application should be directed to TC customer service whose telephone number is (703) 306-0377.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Amelia Au, can be reached at (703) 308-6604.

The Working Group Fax number is (703) 872-9314.

Jingge Wu

Primary Patent Examiner

